

USER MANUAL

— Longo programmable
controller
LPC-2.TH1 module

Version 2

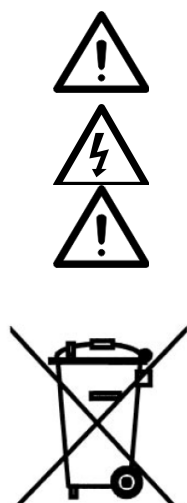


Written by SMARTEH d.o.o.
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User Manual

Document Version: 002
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STANDARDS AND PROVISIONS: Standards, recommendations, regulations and provisions of the country in which the devices will operate, must be considered while planning and setting up electrical devices. Work on 230 VAC network is allowed for authorized personnel only.

DANGER WARNINGS: Devices or modules must be protected from moisture, dirt and damage during transport, storing and operation.

WARRANTY CONDITIONS: For all modules LONGO LPC-2 - if no modifications are performed upon and are correctly connected by authorized personnel - in consideration of maximum allowed connecting power, we offer warranty for 24 months from date of sale to end buyer. In case of claims within warranty time, which are based on material malfunctions the producer offers free replacement. The method of return of malfunctioned module, together with description, can be arranged with our authorized representative. Warranty does not include damage due to transport or because of unconsidered corresponding regulations of the country, where the module is installed.

This device must be connected properly by the provided connection scheme in this manual. Misconnections may result in device damage, fire or personal injury.

Hazardous voltage in the device can cause electric shock and may result in personal injury or death.

NEVER SERVICE THIS PRODUCT YOURSELF!

This device must not be installed in the systems critical for life (e.g. medical devices, aircrafts, etc.).

If the device is used in a manner not specified by the manufacturer, the degree of protection provided by the equipment may be impaired.

Waste electrical and electronic equipment (WEEE) must be collected separately!

LONGO LPC-2 complies to the following standards:

- EMC:EN 61000-6-2 (EN 50082), EN 61000-6-4 (EN 50081)
- LVD: IEC 61131-2
- Vibrations and climatic-mechanical: EN 60068-2-6, EN 60068-2-27, EN 60068-2-29

Smarteh d.o.o. operates a policy of continuous development. Therefore we reserve the right to make changes and improvements to any of the products described in this manual without any prior notice.

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1 DESCRIPTION

LPC-2.TH1 module is used for room temperature and relative humidity measurement. Module is equipped with temperature and humidity sensor.

All parameters are accessible on module communication port. When panel is connected to the LPC-2 main control unit (MCU), parameters can be viewed with LPC Manager application.

2 FEATURES



Figure 1: LPC-2.TH1 module

Table 1: Technical data

Room temperature measurement
Room relative humidity measurement
Power LED
Internal fault LED

3 OPERATION

3.1 Parameters

Actual temperature: Represent actual room temperature measured by LPC-2.TH1 module in °C. Actual room temperature value -40,00 .. 123,80°C is represented as -4000 .. 12380 number in MCU module.

Actual humidity: Represent actual room relative humidity measured by LPC-2.TH1 module in %. Actual room relative humidity value 0 .. 100 % is represented as 0 .. 100 number in MCU module.



4 INSTALLATION

4.1 Connection scheme example

Figure 2: Connection scheme example

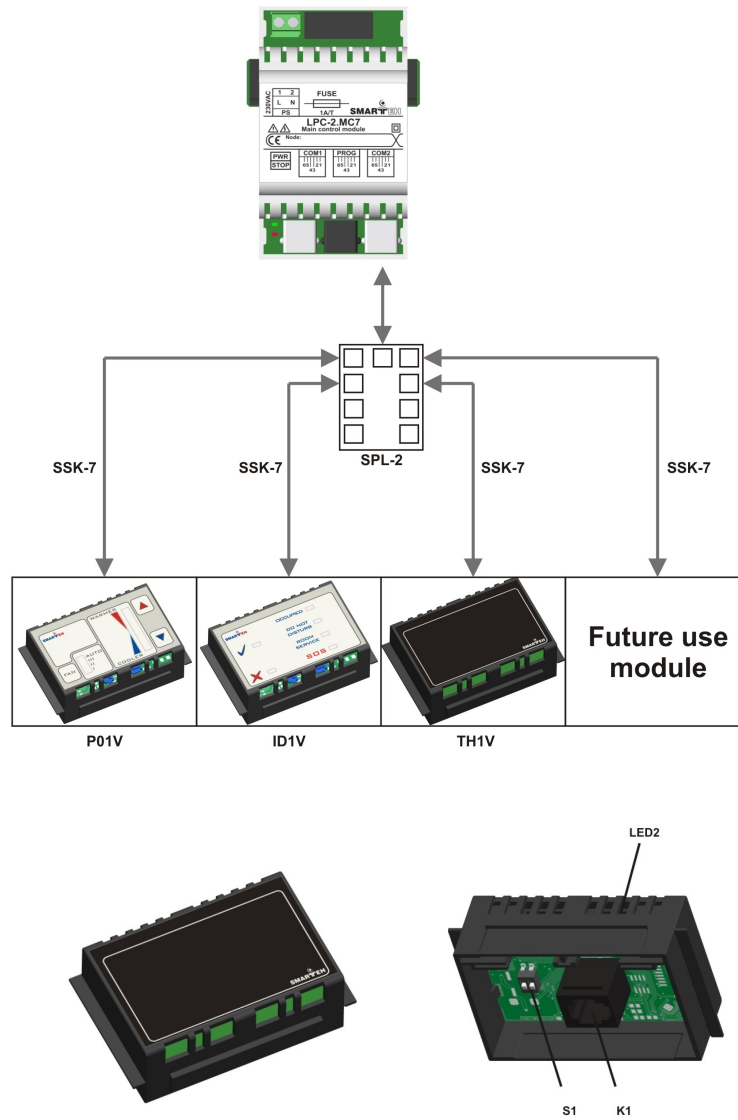


Table 2: K1

K1.1	GND	Ground
K1.2	7 - 28 VDC	Power supply input
K1.3	Standard RS485 A	Data receive/send line A
K1.4	Standard RS485 B	Data receive/send line B

Table 3: LEDs

LED1	Green LED: indicates TH1 power supply	On: OK Off: No power supply
LED2	Red LED: indicates TH1 state	On: RS485 communication fault Off: RS485 communication OK

Table 4: S1

RS485 ADDRESS	Switch 1	Switch 2
0	OFF	OFF
1	OFF	ON
2	ON	OFF
3	ON	ON



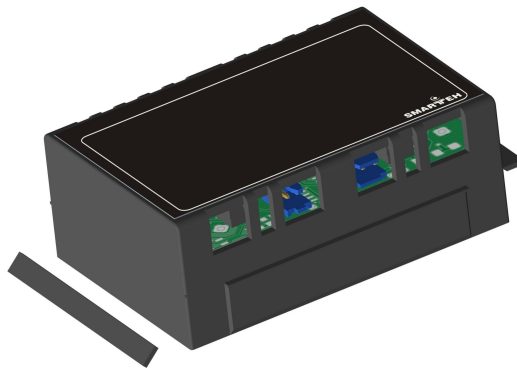
4.2 Mounting frame selection

Smarteh has verified following lines to be compatible with LPC-2.DP1 module:

- Bticino – Living, Light
- Gewiss – Playbus, System
- Vimar – Plana, Idea
- Tem – Modul Soft, Modul Line
- Master

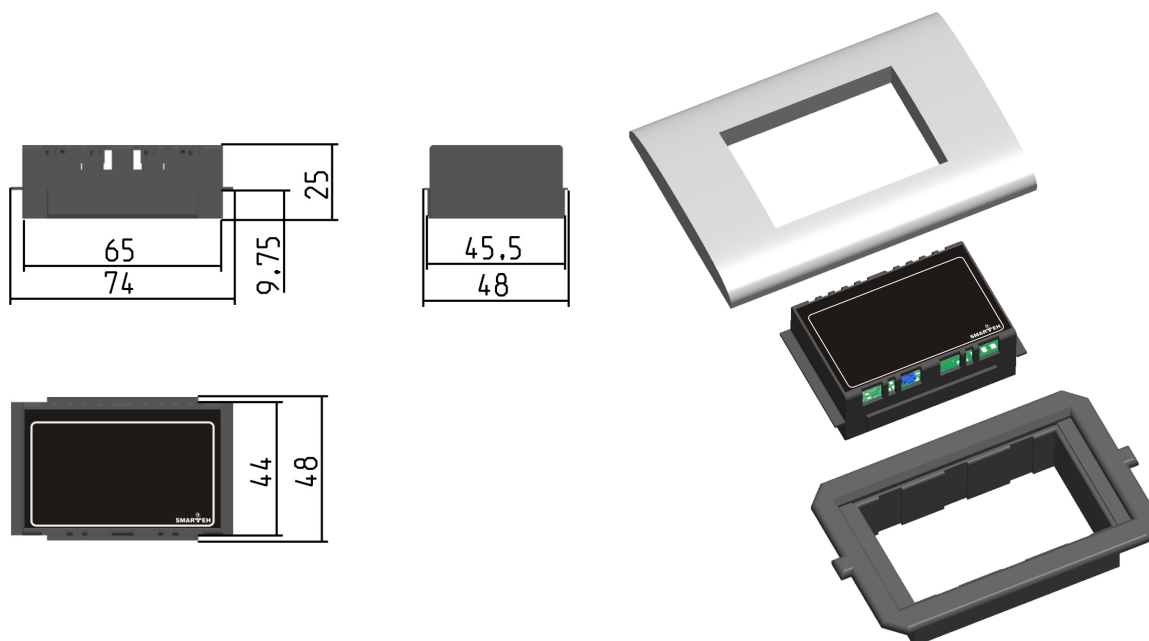
Frames of other vendors most probably suits as well, but they were not verified by Smarteh. Before installation verify compatibility of non listed frames.

Module housing has a fin on each side, which can be easily removed with knife cutter or pliers. This adaptation enables housing to be build in various frame formats with two different depths. With regard to frame used you may remove fin for housing to fit in.



4.3 Mounting instructions

Figure 3: Housing dimensions



- Dimensions in millimeters.



All connections, module attachments and assembling must be done while module is not connected to the main power supply. Module should be positioned in the wall inside of the room. Avoid direct sunlight or positioning near heating/cooling source object.

Recommended installation height is 1,5 m above floor level.

1. Set the correct RS485 address (S1 switch) for LPC-2.TH1 (refer to the Table 4).
2. Connect interconnection cable to the connector K1. Max. allowed tensile force is 30 N.
3. Put the LPC-2. TH1 in mounting frames
4. Cover LPC-2. TH1 with cover plate

LPC-2. TH1 is connected to the main control unit with interconnection cable (e.g., SSK-7) which must be ordered together with LPC-2. TH1 module. When more modules (e.g., LPC-2.CR1, LPC-2.CH1, LPC-2.DP2 or up to four LPC-2.DP1) are connected to main control unit, splitter (e.g., SPL-2) is also required (Figure 2).

Module address on RS485 network is set with DIP switch on the back of the module (Table 4).

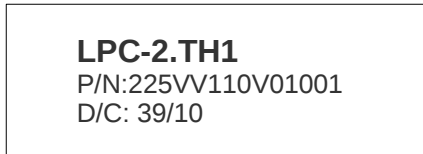
- NOTE: Signal wires must be installed separately from power and high voltage wires in accordance with general industry electrical installation standard.



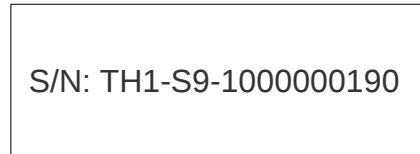
4.4 Module labeling

Figure 4: Labels on housing

Label 1(LPC-2.TH1 module sample):



Label 2(LPC-2.TH1 module sample):



Label 1 description:

1. **LPC-2.TH1** is the full product name.
2. **P/N:225TH110V01001** is the part number.
 - **225** – general code for LPC-2 product family,
 - **TH1** – short product name,
 - **10V01** – sequence code,
 - 10 – year of code opening
 - V01 – derivation code
 - **001** – version code (reserved for future HW and/or SW firmware upgrades).
3. **D/C:39/10** is the date code.
 - **39** – week and
 - **10** – year of production.

Label 2 description:

1. **S/N:TH1-S9-1000000190** is the serial number.
 - **TH1** – short product name,
 - **S9** – user code (test procedure, e.g. Smarteh person xxx),
 - **1000000190** – year and current stack code,
 - 10 – year (last two cyphers)
 - 00000190 – current stack number; previous module would have the stack number 00000189 and the next one 00000191



5 TECHNICAL SPECIFICATIONS

Table 5: Technical specifications

Power supply	from MCU
Interconnection connector type	RJ12 6/6
Power consumption	0,5 W
Temperature measurement accuracy at 25 °C	+ - 0,3 %
Temperature measurement accuracy on the scale value 0 .. 50 °C	+ - 1 %
Temperature measurement accuracy on the full scale value -40 .. 123 °C	+ - 2,5 %
Relative humidity measurement accuracy on the scale 20 .. 80 %	+ - 3 %
Relative humidity measurement accuracy on the full scale value 0 .. 100 %	+ - 5 %
Dimensions (W x H x D)	65 x 47 x 25 mm
Weight	35 g
Maximum altitude	2000 m
Mounting position	all directions
Ambient temperature	0 to 50 °C
Ambient humidity	max. 95 %, no condensation
Transport and storage temperature	-20 to 60 °C
Protection class	IP 20



6 CHANGES

The following table describes all the changes to the document.

Date	V.	Description
1.7.2012	002	CGP General update.
30.09.2010	001	The initial version, issued as <i>LPC-2.TH1 temperature and relative humidity module UserManual</i> .





7 NOTES

